Shaw® Shaw Environmental, Inc.
Project No. P-035090-07/PRL 07-16
Contract No. FA8903-04-D-8676
Task Order 0151

Revision 0 - April 2009

Demolish JP-5 Slop Tank at the Red Hill Fuel Facility
Fleet and Industrial Supply Center
Pearl Harbor, Hawaii

Technical Report

TECHNICAL REPORT
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April 2009

Submitted to:

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Table of Contents

List of Appendices

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1.0 Introduction

This Technical Report documents the work performed (herein referred to as work or project) at the Red Hill JP-5 Slop Tank (herein referred to as the site), Red Hill, Oahu, Hawaii. Shaw Environmental, Inc. (herein referred to as Shaw or Contractor) has prepared this document for the Fleet Industrial Supply Center (FISC) under the Air Force Center for Engineering and the Environment (AFCEE) Contract No. FA8903-04-D-8676, Task Order 0151 (Shaw Project No. 131412).

The work was performed in accordance with the following:

- Statement of Work entitled, "Pipeline Abandonment," dated February 27, 2008
- Proposal for Services submitted by the Contractor, dated April 15, 2008
- Final Work Plan (prepared by Shaw under AFCEE Contract No. FA8903-04-D-8676, Task Order 0151), dated September 16, 2008

The objective of the work performed was to clean and demolish Tank S-355, an aboveground storage tank that was previously used to store jet petroleum grade 5 (JP-5) slop fuel. The scope of work was performed between September 2008 and March 2009. It consisted of the following activities:

- Drained and cleaned approximately 120 linear feet of [redacted]-inch and [redacted]-inch pipeline that provided slop fuel supply and drain piping to Tank S-355
- Demolished tank and ancillary equipment; all steel from tank, valves, and piping were taken to a permitted recycling company
- Recycled green waste generated during the berm removal
- Transported and disposed of construction debris, containment liner, and pipeline contents and rinsate

This Technical Report is organized as follows:

- ***Section 1, "Introduction"***—Briefly describes the project scope of work.
- ***Section 2, "Demolition of JP-5 Slop Tank and Equipment"***—Describes the activities performed to safely drain, clean, and remove piping, valves, and other ancillary equipment.
- ***Section 3, "Waste Management"***—Describes the management and disposal of project-generated wastes.

- ***Section 4, "Demobilization and Final Inspection"***—Describes the demobilization tasks and final inspection.
- ***Section 5, "References"***—Provides a list of documents referenced in this Technical Report.

Supplemental information to this Technical Report includes the following appendices:

- ***Appendix A, "Photograph Log"***—Illustrates representative photographs of project activities.
- ***Appendix B, "Permits and Certificate for Demolition"***—Contains the documentation of the asbestos notification of demolition and a gas-free certificate.
- ***Appendix C, "Laboratory Analyses"***—Contains the laboratory results of soil samples and drum contents.
- ***Appendix D, "As-Built Drawings"***—Provides the as-built conditions of the site.
- ***Appendix E, "Waste Transportation and Disposal Documentation"***—Presents copies of the transportation and disposal documentation for project wastes.
- ***Appendix F, "Final Inspection Documentation"***—Presents the documentation of the final inspection.

2.0 Demolition of JP-5 Slop Tank and Equipment

This section describes the activities performed to prepare the pipeline, remove the pipeline contents, and clean and abandon the pipeline. Site photographs are presented in Appendix A.

2.1 Drainage, Cleaning, and Removal of Pipelines

Personnel and equipment were mobilized to the site.

Polysheeting and drip pans were placed in any work area prior to cold-tapping, draining, and cleaning activities.

Cold taps were placed at several locations along the (b) (3) (A)inch diameter pipelines to enable complete draining and cleaning of pipe sections. Pipe cleaning was accomplished using a high-pressure (4,000 pounds per square inch) jet-cleaning system. An air-driven diaphragm pump was used to recover pipe-cleaning rinse water and stored it in drums.

2.2 Tank Cleaning—Gas-Free Condition

While preparing for tank cleaning operations and upon removing the tank manhole cover to collect air monitoring samples, the tank interior was found in a clean condition with no residual odor and 0% lower explosive limit. A "Certificate for Demolition" was obtained from a Marine Chemist. No tank-cleaning activities were performed. A copy of the "Certificate for Demolition" is located in Appendix B.

2.3 Demolition of Tank, Pits, Aqueous Film-Forming Foam Tank, and Truck-Loading Rack

Prior to demolition activities, an asbestos survey was conducted in accordance with the State of Hawaii Department of Health (HDOH) "Asbestos Notification of Demolition & Renovation" application. No asbestos-containing material was detected. A copy of the "Asbestos Notification of Demolition & Renovation" and asbestos survey are provided in Appendix B.

Samples of tank and piping coating were taken and analyzed for lead. Results provided in Appendix C indicated lead was present; therefore, appropriate measures were employed to protect workers and the environment.

The tank, tank staircase, and piping were demolished using an excavator with hydraulic shears. The concrete ring wall and sidewalk around the tank were demolished. Crusher run base material under the tank was sampled and analyzed. Results, presented in Appendix C, indicate the level of total petroleum hydrocarbons (TPH) as JP-5 in the crusher run is below HDOH reporting limits; therefore, the crusher run was left in place.

The piping protruding from the southeast wall was removed to approximately 3 feet from the wall. A pipe plug was inserted and left in place rather than a concrete plug to allow FISC flexibility when addressing abandonment of this portion of the pipeline in the future.

All piping, pumps, and valves were removed from the pump, valve, and drain pits. The concrete pits were demolished and removed. Soil samples were taken from beneath each pit and analyzed for TPH as JP-5. Results indicated levels below HDOH reporting limits. No soil was removed.

Outside of the berm and along the road, the truck-loading rack, staircase, lighting fixture, and aqueous film-forming foam tank were dismantled and removed.

Appendix D provides as-built drawings of the demolished items.

All demolished metal, including tank, piping, valves, and pumps, were taken to an on-island metal recycler.

All demolished concrete was taken to an on-island landfill for disposal.

2.4 Containment Liner Demolition

Containment liner material was removed from three of the berm walls. The liner on the south-eastern berm wall was left undisturbed to provide slope protection from water runoff from the road above.

2.5 Rectifier and Control Panel Removal

An electrical panel and cathodic protection rectifier was removed and placed near the former truck-rack location above the site for FISC personnel.

2.6 Re-distributing Berm Material

Vegetation growing beyond the containment liner was removed prior to the berm removal and taken to a green waste recycling facility.

Re-distribution of the soil berm was achieved by using bladed hydraulic hoe equipment to spread soil across the site. The material was re-distributed to create a swale at the base of the driveway which will allow drainage of the area and prevent ponding of rain runoff.

3.0 Waste Management

This section describes the characterization, handling, transport, and disposal of wastes generated while performing work at the site.

Steel from the tank and piping demolition was recycled at Schnitzer Steel, and green waste generated on site during the project execution was taken to Hawaii Earth Products for recycling.

Two drums of pipeline residual and cleaning wastes were generated during the project execution. Drum contents were characterized and profiled according to applicable regulations and treatment facility requirements, resulting in nonhazardous waste determinations.

In addition, concrete and containment liner material was taken to PVT Landfill in Nanakuli, Oahu, for final disposal as construction demolition debris.

Nonhazardous manifests and weight tickets are presented in Appendix E.

4.0 Demobilization and Final Inspection

Following the transportation of wastes from the site, demobilization of personnel and equipment was completed. The driveway access area was restored to its original condition prior to demobilization.

Representatives of FISC, AFCEE, and Shaw conducted a final site inspection, and the work was accepted without discrepancies. The final inspection documentation is presented in Appendix F.

5.0 References

Shaw Environmental, Inc., 2008, *Final Work Plan (Revision 1), Demolish JP-5 Slop Tank at the Red Hill Fuel Facility, Fleet and Industrial Supply Center, Pearl Harbor, Hawaii [Task Order 0151], Project No. P-035090-07/PRL 07-16*, September.

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Appendix A
Photograph Log

Photo No. 1: JP-5 Slop Tank S-355 prior to demolition

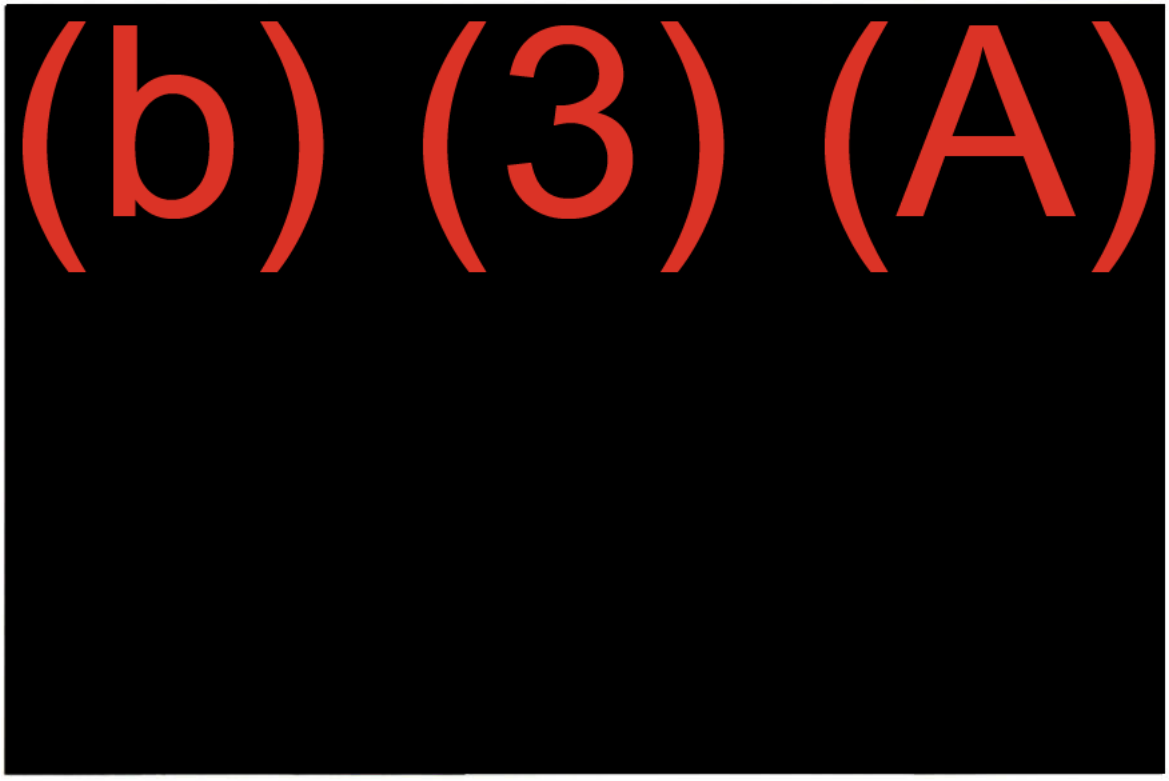

Photo No. 2: (b) (3) (A) -inch pipe through containment wall.

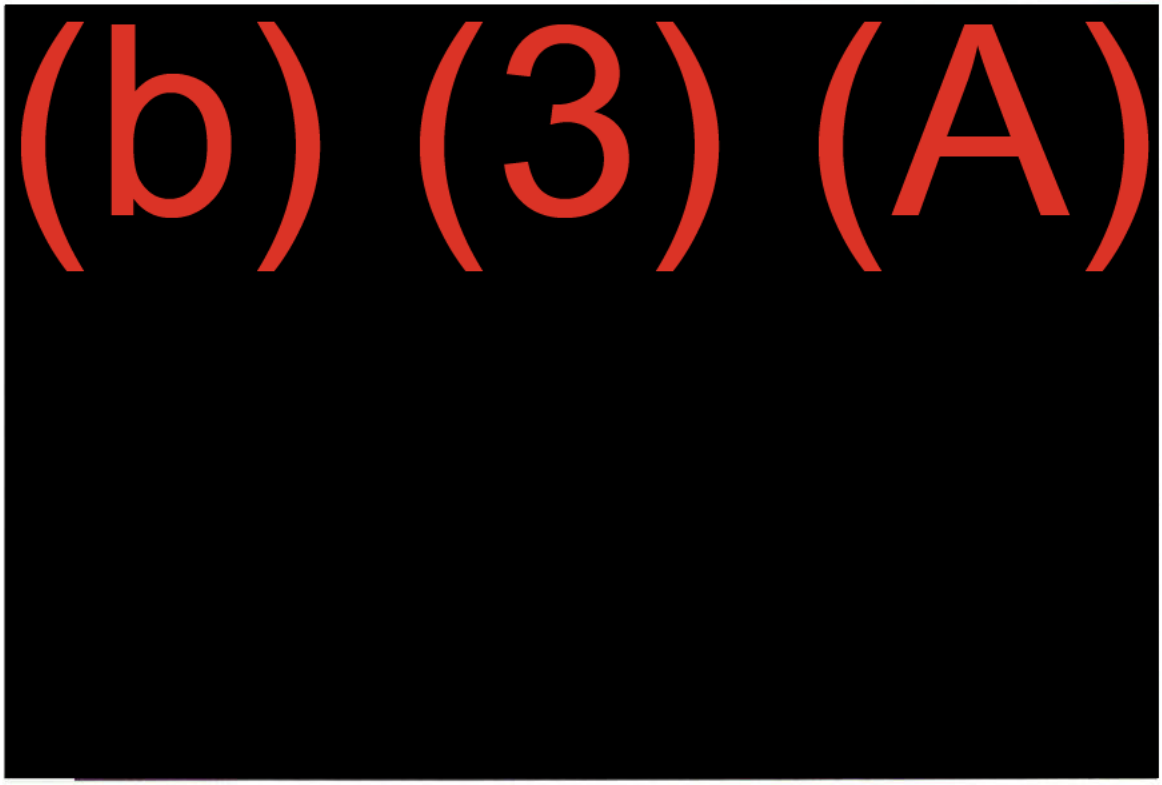

Photo No. 3: Pipe-cleaning activities.

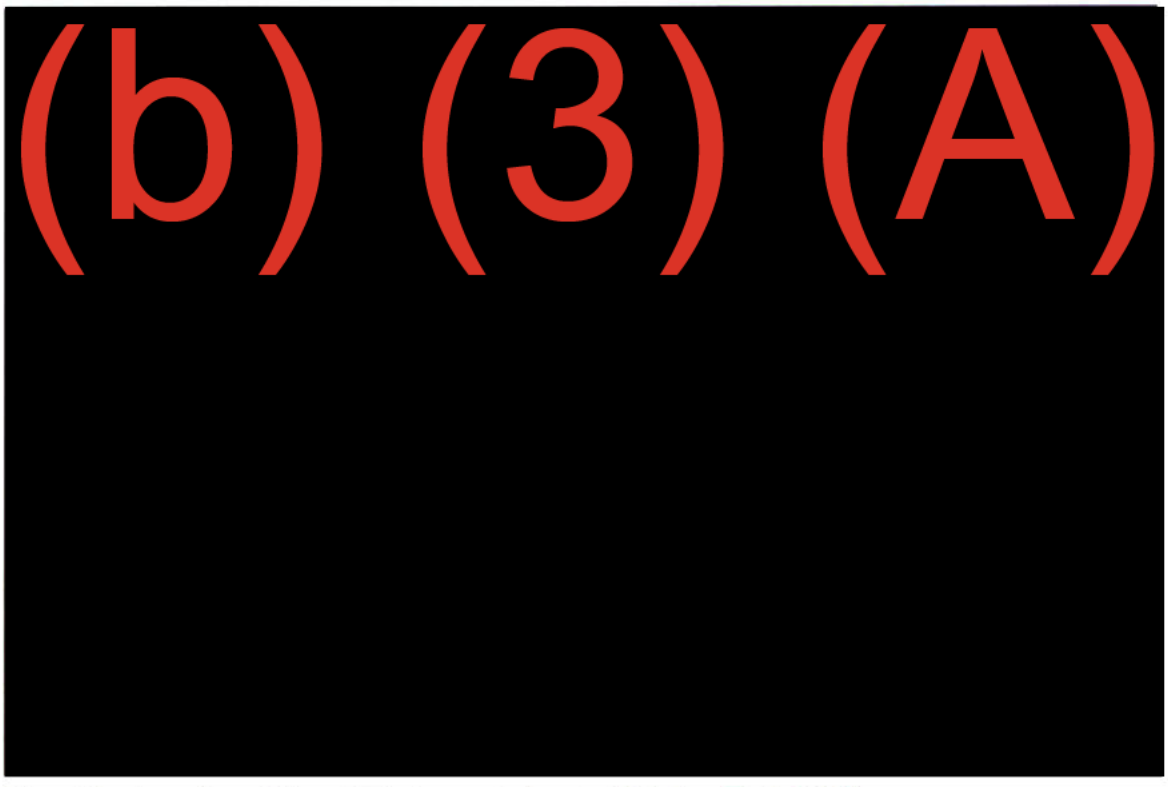

Photo No. 4: Demolition of [redacted] inch supply line to JP-5 Slop Tank S-355.

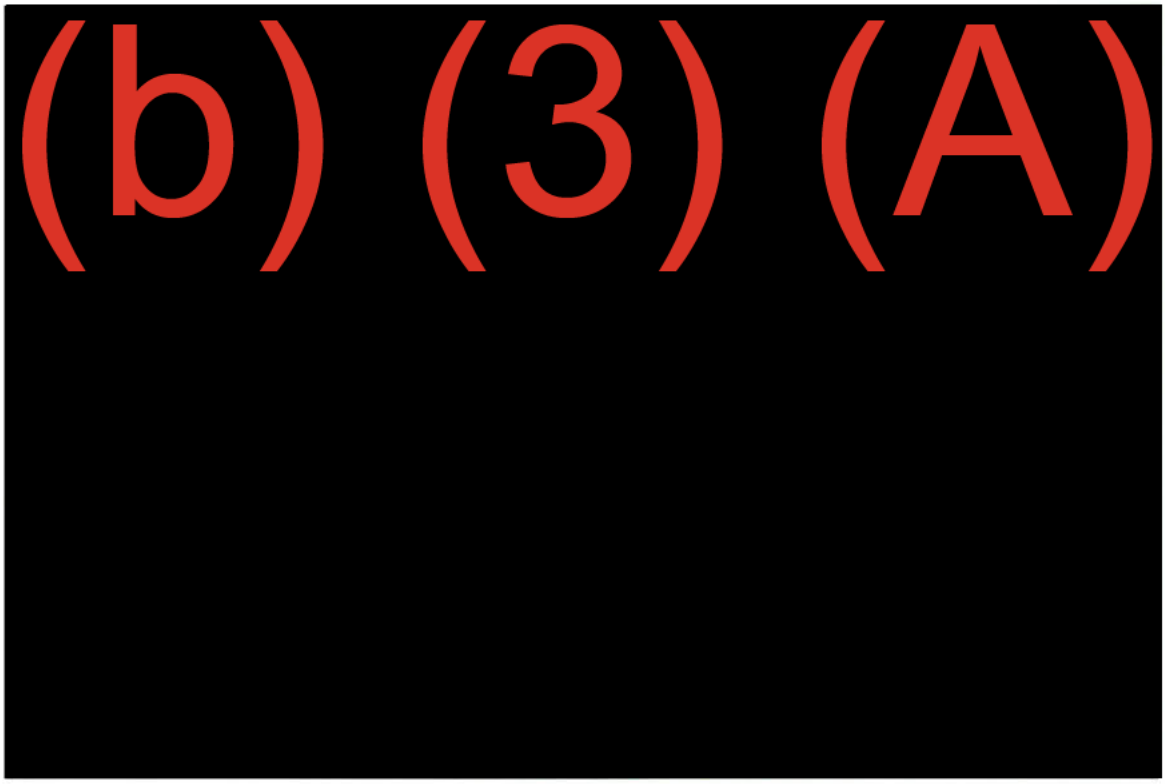

Photo No. 5: Pipe plugged after cutting.

Photo No. 6: Tank demolition in progress.

Photo No. 7: Metal loaded into recycling bins.

Photo No. 8: Truck-loading rack.

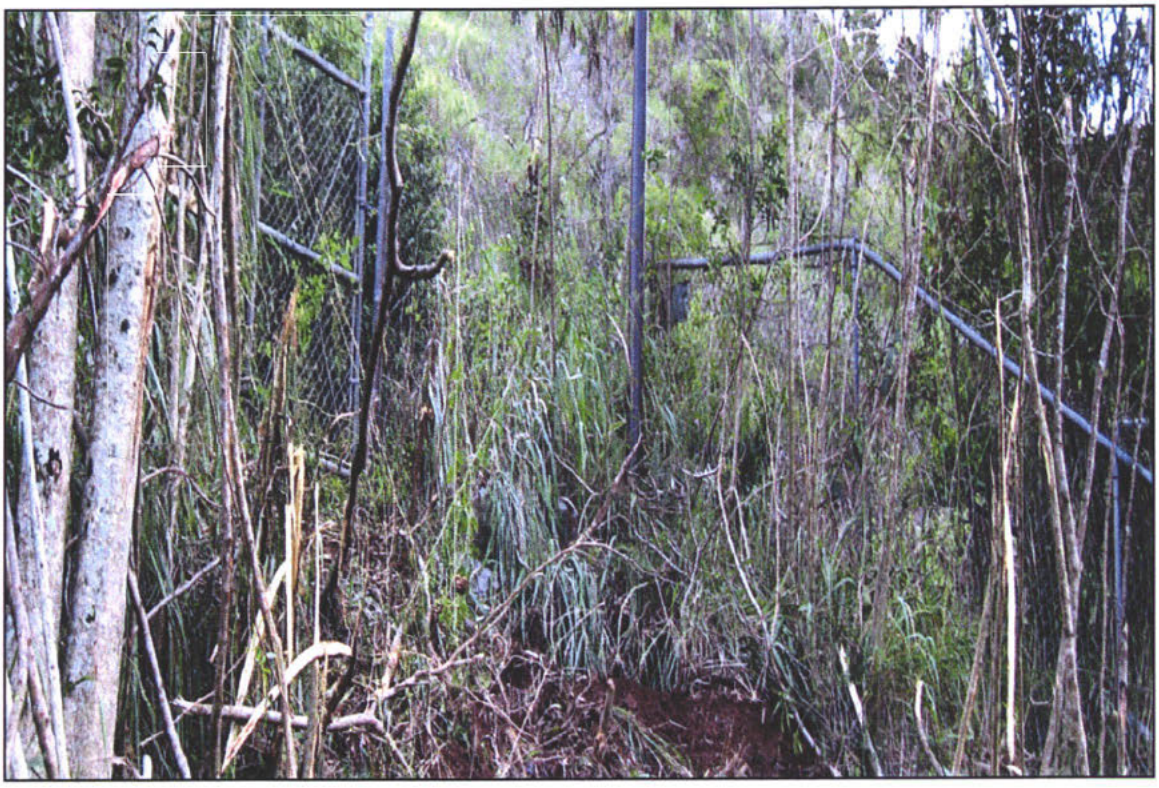

Photo No. 9: Truck rack removed; up-slope view.

Photo No. 10: Truck rack and light post removed - corner view.

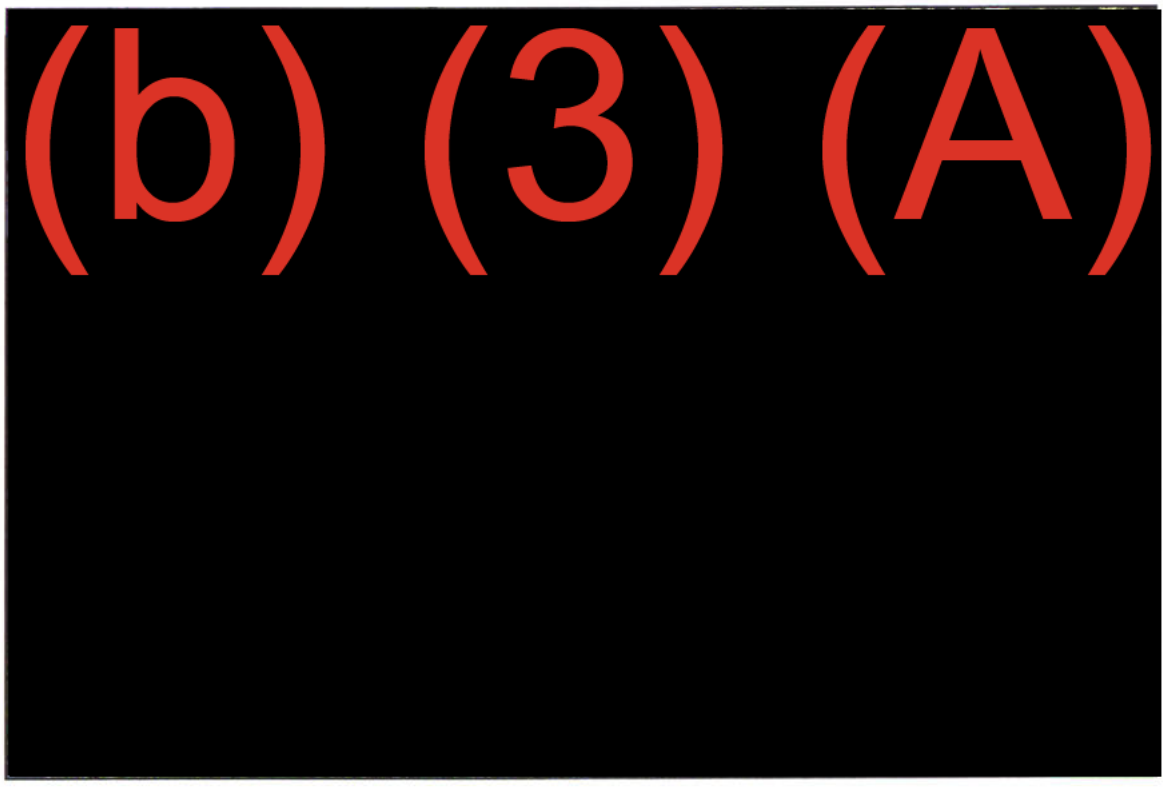

Photo No. 11: The aqueous film-forming foam tank prior to demolition.

Photo No. 12: Aqueous film-forming foam tank removed after demolition.

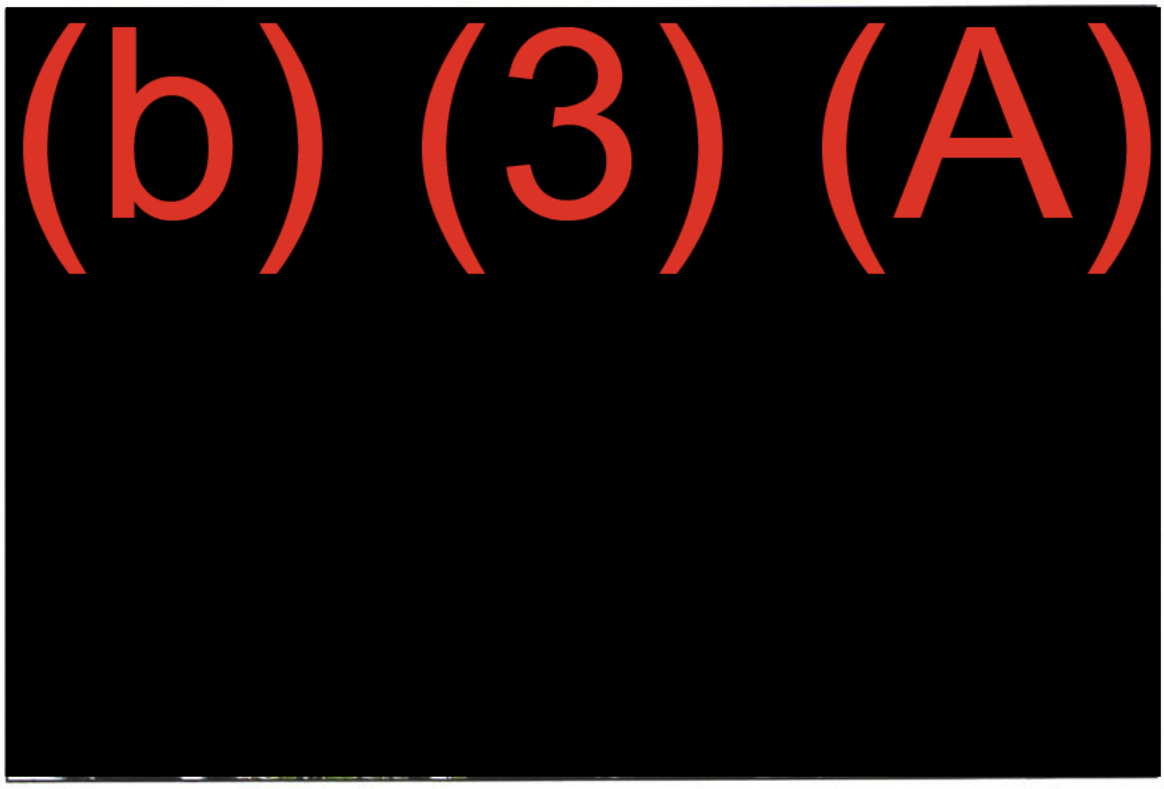

Photo No. 13: Pump pit prior to demolition.

Photo No. 14: Photo shows completion on the left side of the driveway.

Photo No. 15: Middle view of the site from the driveway.

Photo No. 16: View of the site from the driveway gate.